
Odd Pricing in Selected Retail Outlets

Dominador A. Clemente, Jr.¹

Price setting in real-life situations is a complicated task involving various factors. A number of pricing strategies can be adopted depending on company objectives. On the retail level, psychological pricing is prevalent of which odd pricing is one approach. Prices are considered odd if they end in a few centavos or pesos below an even (rounded) number. The data used in the study were obtained from advertisements published in the Manila Bulletin from April to June 1988. A total of 43 retail companies were included in the sample. They advertised 3,349 prices of which 1,312 were classified as odd prices. The statistical technique used was the chi-square statistic. Results indicate that department/specialty stores had the highest proportion of odd prices at 74% followed by travel agencies (64%), furniture stores (60%), book stores (36%) and supermarkets (33%). The four most popular odd price endings were ₱0.95 (supermarkets and department/specialty stores), ₱9.50 (book stores), ₱95 (furniture stores) and ₱8 (travel agencies).

INTRODUCTION

Price can be defined as the value placed on goods and services. Sometimes it can simply be considered as an offer or an experiment to test the pulse of the market. If the offer is accepted by the customers, the price is maintained; otherwise the price may be changed or the product may even be withdrawn from the market.

In real-life situations, it is difficult to define price because many dimensions are involved. A seller usually considers pricing as a combination of the physical product, its accompanying services and want-satisfying benefits. Price setting, therefore, is a complicated task. The market literature describes quite a number of pricing strategies depending on the objectives of the company. One such strategy is psychological pricing.

¹Dominador A. Clemente, Jr. is Lepanto Consolidated Mining Co. Professor at the College of Business Administration, University of the Philippines. This paper is a modified version of a professorial chair lecture delivered by the author in 1988.

FORMS OF PRICING PSYCHOLOGIES

The effectiveness of price in stimulating sales does not depend solely on economic factors but also on buyer psychology. Psychological pricing is used more often at the retail level and can be categorized into four types: odd pricing, price lining, prestige pricing and promotional pricing.

Odd Pricing

In general, retailers believe that pricing items at odd amounts will result in larger sales because it gives the illusion of a lower price. Thus, selling the product for ₱6.95 (odd price) instead of ₱7.00 (even price) is considered desirable because the buyer thinks of the price as being in the ₱6.00 range. Although the price difference is only 5 centavos, the psychological difference can be much greater. Odd pricing was originally used to force store clerks to provide change which serves as a cash control device. Through the years, it has become a customary feature of contemporary price quotations.

Odd pricing is considered effective because of human memory limits. When the price, for instance, is ₱495, the digit 4 is more significant as information than the digit 9 which in turn is more significant than the digit 5. The price will be remembered as ₱400 or ₱490 but rarely ₱495. Consumers also tend to round prices downwards rather than upwards. Newspaper advertisements are dominated with prices ending in odd numbers.

The odd price idea is commonly used by supermarkets and department stores although it has been applied to articles of considerable unit value like ₱5,995. Odd pricing is usually avoided in prestige stores because an odd price may convey the impression of a lower quality.

The literature on psychological pricing among retailers in the United States explains an odd price in various ways:

- o it is not even
- o it requires change
- o it is a few cents below an even price
- o it is not commonly used for price quotations
- o it ends in certain numbers
- o it ends in odd numbers

An examination of the amounts given as examples of odd prices indicates that there are two general versions of what an odd price is. The first considers an odd price as strictly ending in an odd number like \$9.93 and \$867.00 regardless of the amount involved. The second refers to the term "odd" as unusual where the price is a few cents or dollars below an even price. The term "even" does not refer to its numerical meaning like 2, 4, 6 and 8 but rather to a round number. Within this context, an odd price could be \$8.95, \$7.99, \$8.98, \$8,995 and \$16,950. It should be noted that whichever version is used, the intention is to impart the image of a low price.

Price Lining

Price lining is setting a limited number of prices for selected lines of merchandise. This approach assumes that buyers are not sensitive to small differences but only to large differences in price. For example, the prices for men's ties could be ₱60, ₱80, and ₱110. The buyers will associate low, average and high quality ties, respectively, with

the three price points. Even if the three prices are moderately changed, customers will continue to buy ties at approximately the price points they are used to. In effect, price lining simplifies the decision making process of the customer in the final selection of style or brand within a product line.

Prestige Pricing

Another form of psychological pricing is the relationship of the price and the buyer's perception of product quality. A high price is set to suggest high quality or high status. If the price appears cheap, customers will start worrying about quality and may have reservations about buying. There is, however, a limit to which this psychological advantage can be pushed. If the price is set too high, it can strain the seller's credibility and create distrust of the retailer. While prestige pricing is used by many retailers, the price-quality relationship appears to hold only when price is the only variable given but not when additional cues are provided like brand information.

Prestige pricing is most common for luxury products like diamonds, sports cars, perfume and whiskey. It is also used in service industries where the customers cannot see the product in advance and must rely on price to judge the quality that will be supplied. Also, products that are somewhat unusual or bizarre often command relatively high prices.

Promotional Pricing

At the other extreme of prestige pricing is promotional pricing. Supermarkets and department stores will often price selected products below normal markups or even below cost. These products are called loss leaders and are used to attract customers to the store in the hope that they will buy other at normal markups. Promotional pricing may also be used to get rid of excess stocks or outdated merchandise, to get customers to try a particular brand or to stimulate the sales of related products.

The common practice is to restrict promotional pricing to well-known, widely used items which customers do not stock heavily like beverages, detergent bars and cooking oil on which customers will recognize a bonafide price cut.

SCOPE, SOURCE OF DATA AND STATISTICAL TECHNIQUE

Among the different forms of pricing psychologies,

focus has been set on odd pricing due to lack of sufficient data with regard to other pricing psychologies. The data used in this study have been obtained from advertisements published in the Manila Bulletin from April to June 1988. The sample included companies that advertised a minimum of 10 prices in any one advertisement. The results, therefore, may not apply to companies that have been excluded and those that have not advertised their products.

In some instances, several companies have indicated both their regular and sale prices in which case only the sale or final prices have been taken into account. Over the three-month period, some companies have advertised several products more than once. To avoid duplication, only the prices in the last advertisement have been considered.

As defined in this study, prices are considered odd if they end in 95, 8 and 9 as in ₱195, ₱95, ₱50.95, ₱278, ₱159, ₱68 and ₱49 or when 8 and 9 are combined with price endings of ₱50, ₱5 and ₱0.50 like ₱850, ₱1950, ₱185, ₱195, ₱138.50, ₱129.50, ₱78.50, ₱39.50, ₱8.50 and ₱9.50.

A total of forty-three retail companies were included in the study. They advertised 3,349 prices of various items. Out of this number, 1,312 were classified as odd prices. Additional details are found in Table 1.

The statistical technique used is the chi-square statistic which is considered appropriate when the data are based on categorization or frequencies of occurrence. Usually, one would want to know whether the frequencies observed in the sample deviate significantly from some theoretical or expected frequency. In this paper, an expected or *a priori* distribution was assumed.

Table 1. Number of Companies and Advertised Prices

Category	No. of Companies	No. of Prices Advertised	No. of Odd Price
Supermarkets (S)	7	372	122
Department/Specialty Stores (D/S)	8	183	136
Book Stores (B)	6	2,572	916
Furniture Stores (F)	6	87	52
Travel Agencies (T)	16	135	86
Total	43	3,349	1,312

RESULTS AND DISCUSSION

Differences Among Proportions

From Table 1, a frequency table is constructed to show the number of odd and non-odd prices. The results are shown in Table 2. The numbers in parentheses are the percentage proportions of odd and non-odd prices.

It is of interest to know whether the actual proportions of odd prices are the same for all five categories. To determine this, the true proportions of the five categories are designated as p_1, p_2, p_3, p_4 and p_5 . The null hypothesis to be tested and the alternative hypothesis are:

$$\text{Null Hypothesis: } p_1 = p_2 = p_3 = p_4 = p_5$$

Alternative Hypothesis: p_1, p_2, p_3, p_4 and p_5 are not all equal.

If the null hypothesis is true, the five samples can be combined and the common proportion of odd prices is estimated as:

$$\frac{122 + 136 + 916 + 52 + 86}{372 + 183 + 2,572 + 87 + 135} = \frac{1,312}{3,349} = 0.39$$

For the first category, we would expect $372 (0.39) = 145$ odd prices, $183 (0.39) = 71$ for the second category and so on. Subtracting these figures from the total of the respective categories, we would expect $372 - 145 = 227$ non-odd prices for the first category and $183 - 71 = 112$ for the second category. These results are summarized in Table 3 where the expected frequencies are shown in parentheses below the observed frequencies.

To test the null hypothesis (.05 level), a chi-square statistic was computed with a value of 165.05. Since the computed chi-square is larger than the tabular value, the null hypothesis is rejected. The alternative hypothesis that the proportions are not equal is therefore accepted.

Since the proportions of odd prices for supermarkets and book stores have been quite close at 36 percent and 33 percent, respectively, while that of furniture stores and travel agencies have been reflected at 60 percent and 64 percent, respectively, additional tests have been conducted using the chi-square statistic. Results indicate that the differences were not significant at the .05 level. It may, therefore, be concluded that among the retail categories, department/specialty stores have the highest frequencies of odd prices

Table 2. Frequency Distribution of Odd and Non-Odd Prices

Type of Price	Retail Category				
	Supermarkets	Department/ Specialty Stores	Book Stores	Furniture Stores	Travel Agencies
Odd	122 (33)	136 (74)	916 (36)	52 (60)	86 (64)
Non-Odd	250 (67)	47 (26)	1,656 (64)	35 (40)	49 (36)

Table 3. Observed and Expected Frequencies

Type of Price	Retail Category				
	Supermarkets	Department/ Specialty Stores	Book Stores	Furniture Stores	Travel Agencies
Odd	122 (145)	136 (71)	916 (1,003)	52 (34)	86 (53)
Non-Odd	250 (227)	47 (112)	1,656 (1,569)	35 (53)	49 (82)

followed by furniture stores and travel agencies and finally by supermarkets and book stores.

Frequency of Price Endings

The four most popular odd price endings are ₱0.95, ₱9.50, ₱8, and ₱95 (Table 4). About 57 percent of supermarket odd prices end in ₱0.95. For department/specialty stores, 45 percent and 38 percent of the odd prices end in ₱8 and ₱0.95, respectively. One appliance store in the sample has 63 out of 64 advertised prices ending in ₱8 regardless of the amount. On the other hand, one houseware store has announced all the 36 prices in its advertisements ending in ₱0.95 also regardless of the amount. The numeral 8 is also the most common price ending for travel agencies accounting for 70 percent of all odd prices. Five travel agencies in the study have all their prices ending in ₱8 or \$8. The popularity of the digit 8 has been attributed by psychologists to its being symmetrical which creates a soothing effect. The number 7, on the other hand, is angular and creates a jarring effect.

For book stores, ₱9.50 and ₱0.95 have accounted for 43 percent and 40 percent, respectively, of odd price endings. Since these numbers are used by book stores regardless of the price level, it is difficult, given the existing data, to state at what price ranges, ₱9.50 or ₱0.95 are most commonly applied. There are some indications, however, that ₱9.50 is used for prices above ₱30 while ₱0.95 is used for prices below ₱30.

The prices advertised by furniture stores have ranged from ₱199 to ₱14,995 with the exception of one item which has been priced at ₱59.95. This explains why the prices ended in pesos rather than in centavos. The most common price ending is ₱95 which is 60 percent of the total number of odd prices reported by furniture stores.

CONCLUSION

The study provides evidence that retail outlets particularly department/specialty stores, travel agencies and furniture stores use odd pricing to a large extent. The low

Table 4. Distribution of Odd Price Endings by Retail Category

Type of Price	Retail Category						Total	Percent
	Super- markets	Department/ Specialty Stores	Book Stores	Furniture Stores	Travel Agencies			
.95	69	51	365	1			486	37
8	5	61	29		60		155	12
9	5	6	30	5	23		69	5
850				2			2	—*
950		2		5			7	—*
8.50	7		60				67	5
9.50	32	1	393				426	32
85	2	4	8	8	3		25	2
95	2	11	31	31			75	6
Total	122	136	916	52	86		1,312	100

*Less than 1%.

percentage of odd prices used by book stores has been expected since the items advertised were mostly textbooks or references where demand would be more inelastic. The low percentage of odd prices used by supermarkets, however, has not been expected following the US experience where odd prices are encountered widely in US supermarkets. One possible explanation is the choice of digits as price endings as used in the study. Some supermarkets may in fact be using their own version of odd prices which could end in any number. For example, a large Philippine supermarket uses price endings for many products in multiples of 25 like ₱160.25, ₱21.50 and ₱104.75. One US discounter uses prices ending in 3 and 7 because of a belief that customers regard price tags, say of \$5.95 and \$6.98 as regular retail prices while \$5.97 and \$6.93 are considered as discount prices.

As to whether odd prices generate greater sales or not is subject to conjecture. Various studies have reported inconclusive results. Many retailers could have adopted odd pricing for no other reason than custom or simply because everyone else does it. Nonetheless, the prevalence of odd pricing among the companies may have some merit in it. Given the sad state of the economy and the increasing number of malls and shopping centers, a pricing scheme that offers a "bargain" could be attractive to price-conscious consumers.

REFERENCES

- Beckman, Theodore N. and Davidson, William, R., **Marketing**, The Ronald Press Company (1967).
- Bell, Martin L., **Marketing: Concepts and Strategy**, Houghton Mifflin Company (1979).
- Bennet, Peter D., **Marketing**, McGraw-Hill, Inc. (1988).
- Boone, Louis E. and Kurtz, David L., **Contemporary Marketing**, The Dryden Press (1977).
- Boyd, Harper W. and Massy, William, **Marketing Management**, Harcourt Brace Jovanovich, Inc. (1972).
- Buskirk, Richard H., **Principles of Marketing: The Management View**, Holt, Rinehart and Winston, Inc. (1961).
- Cundiff, Edward W., Still, Richard R. and Govoni, Norman, **Fundamentals of Marketing**, Prentice-Hall, Inc. (1973).
- Gross, Charles W. and Peterson, Robin T., **Marketing: Concepts and Decision Making**, West Publishing Company (1987).
- Hughes, G. David, **Marketing Management: A Planning Approach**, Addison-Wesley Publishing Company (1978).
- Kinnear, Thomas C. and Berhardt, Kenneth L., **Principles of Marketing**, Scott, Foreman and Co. (1986).
- Kotler, Philip, **Principles of Marketing**, Prentice-Hall, Inc. (1980).

_____, **Principles Of Marketing**, Prentice-Hall, Inc. (1983).

_____, **Principles of Marketing**, Prentice-Hall, Inc. (1986).

Kurtz, David L. and Boone, Louis E., **Marketing**, The Dryden Press. (1984).

McCarthy, E. Jerome, **Basic Marketing: A Managerial Approach**, Richard D. Irwin, Inc. (1975).

_____ and Perreault, William D. Jr., **Basic Marketing: A Managerial Approach**, Richard D Irwin, Inc. (1984).

Pride, William M. and Ferrel, O. C., **Marketing: Basic Concepts and Decision**, Houghton Mifflin and Company (1987).

Stanton, William J., **Fundamentals of Marketing**, McGraw-Hill Book Company (1971).

_____ and Futrell, Charles, **Fundamentals of Marketing**, McGraw-Hill Book Company 1987).